

NASCTN Overview

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NASCTN Mission

The National Advanced Spectrum and Communications Test Network (NASCTN) was established to **increase commercial and Federal access to the spectrum** by providing a neutral, trusted forum to evaluate spectrum-sharing technologies, which could accelerate the deployment of these technologies.



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NASCTN Timeline

2008

- DOD developed idea for neutral, third-party entity to address the increasing commercial demands on spectrum occupied by DOD

2010

- Initial concept gained support through NTIA's *Plan and Timetable to Make Available 500 Megahertz of Spectrum for Wireless Broadband* and the Presidential Memorandum - *Unleashing the Wireless Broadband Revolution*

2011

- DOC (NTIA and NIST) and DoD began negotiating a Memorandum of Agreement (MOA) to establish NASCTN

2013

- NASCTN Transition Team (NIST, NTIA and DoD staff) was established in Boulder, CO

2015

- NASCTN established with the signing of an MOA between NTIA, NIST and DoD

NASCTN Functions

NASCTN helps to accelerate the design and deployment of spectrum-sharing technologies by:

- Performing outreach activities to identify spectrum-related issues that would benefit from accurate and trusted test and modeling data
- Providing a neutral forum for negotiating test plans
- Identifying the appropriate facilities to perform the tests and facilitate access to these facilities
- Providing oversight to help ensure that the tests are performed according to the negotiated protocols
- Protecting proprietary, classified and sensitive information while facilitating maximum dissemination of information.

NASCTN Framework

NASCTN provides an open and transparent framework for negotiating a scientific-based test plan, facilitates access to test ranges and laboratories, and provides a method for validating the test results before findings are reported.



The pre-test elements of the NASCTN Framework help to ensure that the relevant parties reach consensus in development of the test, validation and implementation plans, thus helping to build confidence in the eventual test results.



NASCTN Project Status

As of December 2015, CAC has initiated three spectrum-sharing projects

3550 – 3650 MHz band

Federated Wireless, Inc.

Project is focused on measuring waveforms of radars that operate in this band and supply them to developers of spectrum access systems to support the design and deployment of spectrum sensing networks.

GPS bands

Roberson & Associates, LLC

Investigate the potential degradation in performance of GPS receivers when LTE systems and devices are operating in bands adjacent to GPS frequency bands.

AWS-3 band

Edwards Air Force Base

Identify the test methods and perform measurements of out-of-band emissions of LTE equipment in the AWS-3 band so help mitigate potential interference with air-mobile telemetry (AMT) systems.

NASCTN Outreach

NASCTN is reaching out to other Federal agencies, industry, and academia to identify other spectrum-sharing engineering capabilities and test facilities for potential addition to the NASCTN Network.

Capabilities include:

- Wireless coexistence measurements
- Propagation modeling
- Emission measurements
- Receiver characterization

NASCTN is engaging the spectrum community on areas of interest to help identify what role NASCTN might play in helping resolve these spectrum-sharing issues.

Bands of interest include:

- 3.5 GHz
- AWS-3
- GNSS (including GPS bands)
- 1030/1090 MHz (IFF)
- 5.725 – 5.850 GHz (ISM band)

NASCTN Value Proposition

DoD and Federal Agencies' needs:

- Spectrum to operate systems for national security and public services
- Avoid costs and disruptions of relocating systems to alternative frequency band
- Confidence that proposed spectrum-sharing technologies will not interfere with mission-critical Federal systems prior to the deployment of commercial systems

Industry's needs:

- Access to spectrum to meet needs of expanding wireless services
- Confidence that proposed spectrum-sharing technologies will not affect other Federal or commercial wireless systems before any costly deployment of those technologies
- Neutral, third-party organization that can provide accurate, trusted data to better inform spectrum regulatory policy

Value of NASCTN:

- Offers a scientific-based process for planning, executing and validating spectrum tests (accurate data \equiv improved spectrum regulations)
- Provides a single point of contact to coordinate access to test measurements and modeling capabilities for objective assessment of proposed spectrum-sharing technologies and methodologies
- Helps ensure the security of classified, sensitive and proprietary information
- Provides a trusted forum for public and private sector to discuss issues and future opportunities in spectrum sharing

NASCTN Contact Information

Please contact the NASCTN Project Manager in order to

- submit a new spectrum-sharing project to NASCTN
- participate in on-going NASCTN projects
- add test and modeling capabilities to the NASCTN Network
- learn more about how NASCTN can assist your organization
- join NASCTN



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